

REVISION OF *COSMOPEPLA* STÅL (HEMIPTERA: PENTATOMIDAE)

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Abstract. — The Western Hemisphere species of *Cosmopepla* Stål are revised and a key provided for identification. *Eysarcoris intergressus* Uhler is transferred to this genus. *C. humboldtensis* Bliven is a junior synonym of *C. intergressa* (Uhler).

Cosmopepla Stål, 1867 is a genus of small pentatomids, generally black with red or yellow markings or speckled brown which are distributed widely over Canada, U.S.A., to a lesser extent Mexico, and with only one species recorded from South America. The genus *Eysarcoris* Hahn, 1834 has been confused with *Cosmopepla* and two species in America have been wrongly assigned to that genus. Examination of the holotype of *Eysarcoris alienus* Walker shows that this is an *Edessa* sp. and *E. intergressus* is transferred to *Cosmopepla*. Little is known of the biology of *Cosmopepla* species except for *C. lintneriana* (Kirkaldy) which has a great deal of literature on its life cycle and host preferences (McPherson, 1982).

From an examination of the genitalia, *Cosmopepla* would appear to be related to the holarctic genera *Holcostethus* Fieber, *Trichopepla* Stål and *Codophila* Mulsant by virtue of the genital plates on the margin of the pygophore. However in *Cosmopepla* these are plate-like whereas in the other genera they are much more like appendages and have been termed pseudoclaspers (McDonald, 1974, 1976). *Cosmopepla*, like *Codophila* and *Trichopepla*, possesses no median penial lobes; *Holcostethus* has well developed median penial lobes. *Cosmopepla* has a typically pentatomid type spermatheca with no spines on the bulb of the pump similar to *Codophila*; *Holcostethus* is similar but possesses spines on the spermathecal bulb (McDonald, 1974). *Trichopepla* on the other hand has a very simple primitive type spermatheca (McDonald, 1976). The only other genus with genital plates, *Dendrocoris* (McDonald, 1966), is generally placed in group II of the Pentatomini (Rolston and McDonald, 1981). It bears some resemblance to *Cosmopepla* but is not, I believe, closely related. There is no doubt that by virtue of their geographic distribution and similarities in the male and female genitalia that *Cosmopepla*, *Codophila*, *Holcostethus* and *Trichopepla* are related, with *Cosmopepla* being more distantly related to the other three genera.

Cosmopepla Stål

Cosmopepla Stål, 1867, p. 525, 1872, p. 18; Distant, 1880, p. 52; Provancher, 1885, p. 44; Montandon, 1893, p. 45; Van Duzee, 1904, p. 50; Kirkaldy, 1909, p. 80; Zimmer, 1912, p. 22; Van Duzee, 1917, p. 49; Stoner, 1920, pp. 61, 96-97; Blatchley, 1926, pp. 151-152.

Type species. Cosmopepla carnifex = lintneriana.

Description. Small species never more than 8 mm long and 5 mm wide (across pronotum); black or bluish black with orange or yellow markings, or speckled brown or brown-red. Head with juga and tylus equal or subequal. Antennae slender, pubescent, length of segments variable, fifth always longest. Rostrum reaching or just surpassing base of metasternum. Pronotum with anterior portion declivent, margins without spines or serrations. Scutellum broad, apex broadly rounded lying behind apices of coria. Ostiolar opening raised on a small mound with an auriculate sulcus; evaporative area variable. Legs, tibiae not sulcate, densely pubescent, remaining segments with some pubescence.

Male genitalia: Pygophore provided with genital plates on dorsal margin; ventral margin with a shallow depression below it, centrally excavated or notched. Claspers broad, spatulate with a small thumb-like process except in *C. decorata* and *C. conspicillaris*. Two conjunctival appendages, a large dorsal pair and a much smaller ventral pair. Median penial lobes not developed. Ejaculatory duct moderately long S-shaped, reservoir small, globose.

Female genitalia: External genitalia typically pentatomoid. Only in *C. decorata* and *C. conspicillaris*, are the 2nd gonocoxae visible externally. Spermatheca typically pentatomoid, dilation well developed with internal rod, basally curved. Pump with well developed proximal and distal flanges, bulb ovoid-elongate.

KEY TO SPECIES OF *Cosmopepla*

1. Species black or metallic blue-black with markings in red, yellow or orange 3
- Species overall speckled brown or reddish brown with markings in orange or black ... 2
2. Reddish brown species with a distinct irregular transverse orange band across center of pronotum *C. ulheri* Montandon
- Reddish brown or speckled brown species without orange band on pronotum *C. intergressa* (Uhler)
3. Scutellum with two distinct marginal red spots, one on each side near apex *C. bimaculata* (Thomas)
- Scutellum without spots, apex may be margined in yellow or orange 4
4. Pronotum with a transverse yellow stripe bisected centrally by a perpendicular stripe forming a distinct cross on disc (Fig. 45) *C. cruciaria* Stål
- Pronotal markings otherwise 5
5. Pronotum with a transverse yellow band expanded medianly and bearing two small black maculae close together (Fig. 44) *C. binotata* Distant
- Pronotal band uniform or irregular with maculae widely spaced 6
6. Pronotal band across disc irregular, orange or red, bearing two large maculae well separated (Fig. 43) *C. conspicillaris* (Dallas)
- Pronotal band uniformly narrow 7
7. Frenum not quite $\frac{1}{2}$ length of the scutellum; shape of body broadly oval. Male clasper with a distinct apical thumb-like process (Fig. 36). Female with 1st gonocoxae triangular in outline (Fig. 26) *C. coeruleata* Montandon
- Frenum reaching almost $\frac{1}{2}$ length of scutellum; body generally longer and more tapering. Male clasper without apical process (Fig. 2). Female with 1st gonocoxae oblong in outline (Fig. 6) *C. decorata* Hahn

Note. In the following descriptions mean measurements are given, followed by a

range and the number of specimens on which each measurement is based. Length of each specimen is measured from the apex of the tylus to base of abdomen, the width is taken across the pronotal angles.

Cosmopepla decorata (Hahn)

Figs. 1–7

Eysarcoris decoratus Hahn, 1834, p. 117; Dallas, 1851, p. 225.

Pentatoma decorata Herrich-Schaeffer, 1853, p. 96.

Cosmopepla decorata Stål, 1872, p. 19; Uhler, 1876, p. 284, 1886, p. 5; Distant, 1887, p. 60; Montandon, 1893, pp. 46–47; Uhler, 1894, p. 228; Van Duzee, 1904, p. 52; Barber, 1906, p. 259; Kirkaldy, 1909, p. 80; Van Duzee, 1917, p. 50.

Type. Not located.

Description. Head black. Antennae and rostrum piceous. Pronotum with antero-lateral margins yellow, a narrow yellow band, extending across the disc between lateral angles, remainder of prothorax shiny black. Scutellum black, apex with a crescent shaped yellow macula. Hemelytra black, apical $\frac{1}{3}$ of corial margin yellow. Sterna and pleura black. Legs piceous. Abdomen with connexiva yellow. Sterna shiny black with broad yellow band around outer margins extending onto metapleura. Males, pygophore black. Females, 8th and 9th paratergites yellow. 1st gonocoxae divided diagonally into apical black and basal yellow sections.

Male genitalia: Pygophore. Ventral margin with a distinct inferior ridge centrally notched. Genital plates large triangular. Claspers spatulate without thumb-like process. Aedeagus. Theca cylindrical with two small processes one on each side near base. Two pairs of membranous conjunctival appendages, dorsalmost large, cylindrical, apically sclerotized. Ventral conjunctival appendages smaller, lying centrally. Ejaculatory duct S-shaped.

Female genitalia: 8th paratergites triangular, 9th oblong. 1st gonocoxae somewhat rectangular. 2nd gonocoxae, small oblong structures lying below 1st gonocoxae. Spermatheca with well developed elongate reservoir; spermathecal pump ovoid with well developed proximal and distal flanges.

Distribution. U.S.A.: Arizona, Texas, California, New Mexico. MEXICO: Veracruz, Baja California, Mexico D.F., Jalisco. VENEZUELA: Merida. EL SALVADOR: San Salvador.

Comments. (1) The yellow markings on the prothorax scutellum, and hemelytra can vary from pale yellow to bright orange-red.

(2) This species resembles closely *C. coeruleata* Montandon (1893). In his paper Montandon (1893) gave a series of characters to separate the two species. The males can readily be separated by the fact that the claspers in *C. coeruleata* have a distinct apical thumb-like process, absent in *C. decorata*. In the females, the 1st gonocoxae in *C. decorata* are distinctly oblong (Fig. 6), whereas, in *C. coeruleata* they are more triangular shaped.

(3) This species is common on mints (*Labiatae*) especially the common horehound *Marrhubium vulgare* in Mexico.

Measurements. Female. Length 6.34, range 5.52–6.96 (25); breadth 4.24, range 3.76–4.72 (25). Male. Length 5.95, range 5.20–6.88 (25); breadth 4.10, range 3.68–4.48 (25).

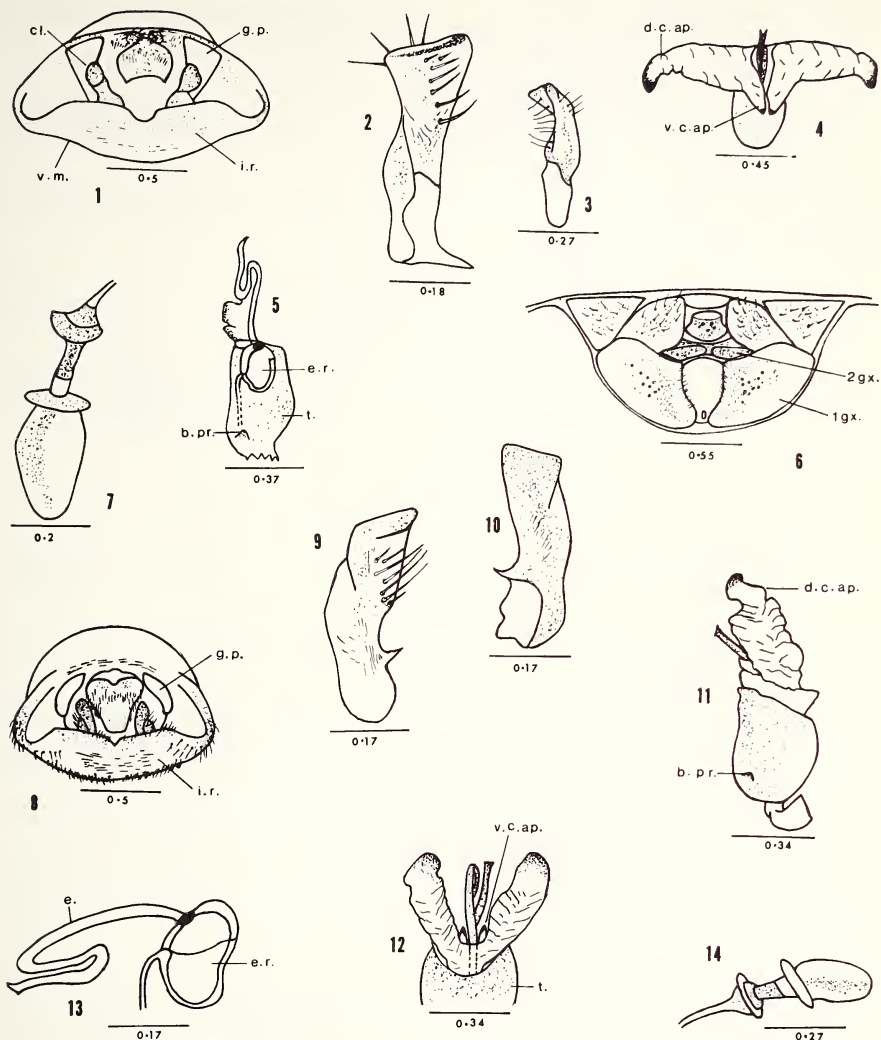
Cosmopepla conspicillaris (Dallas)

Figs. 8–14, 43

Eysarcoris conspicillaris Dallas, 1851, p. 225.*Pentatoma conspicillaris* Herrich-Schaeffer, 1853, p. 153.*Cosmopepla conspicillaris* Stål, 1872, p. 19; Uhler, 1875, p. 830, 1876, p. 284; Distant, 1880, p. 53; Montandon, 1893, pp. 46, 49; Uhler, 1894, p. 229; Gillette and Baker, 1895, p. 14; Van Duzee, 1904, p. 51; Kirkaldy, 1909, p. 80; Banks, 1910, p. 84; Van Duzee, 1917, pp. 49–50; Stoner, 1920, p. 13; Baker, 1931, pp. 198–199.*Holotype*. ♀, California. British Museum (Natural History) (Hem. 1103). Type seen by author.*Description*. Head black. Antennae and rostrum piceous. Pronotum black with anterior and lateral margins outlined in yellow. Central vertical yellow stripe running from anterior margin almost to posterior margin. Across center of disc running between lateral angles is a jagged orange band containing two black maculae, one on either side of the central vertical yellow stripe (Fig. 43). Scutellum black, apex margined in yellow. Corium, clavus piceous, upper half of corial margin outlined in yellow. Sterna, pleura black. Legs piceous. Abdomen with sterna black, outer margins with irregular crenate yellow band extending on each side onto the metapleuron.Male genitalia: Pygophore similar to *C. decorata*, genital plates crescent shaped. Claspers with square apex. Aedeagus with dorsal conjunctival appendages with broadly rounded apices, moderately sclerotized.Female genitalia: Similar to *C. decorata*.*Distribution*. U.S.A.: Idaho, Colorado, Utah, Montana, California, Oregon, Washington. CANADA: Vancouver Is., British Columbia. MEXICO: Baja California.*Comment*. Downes (1928) states that this species is common on flowers of *Stachys palustris*.*Measurements*. Female. Length 6.59, range 5.76–7.84 (25); breadth 4.13, range 3.28–4.88 (25). Male. Length 6.09, range 5.40–6.80 (25); breadth 3.90, range 3.50–4.40 (25).*Cosmopepla lintneriana* (Kirkaldy)

Fig. 15

Cimex carnifex Fabricius, 1798, p. 535 (name preoccupied by *C. carnifex* = *Lygaeus carnifex* Fabricius, 1775); Coquebert, 1801, p. 81; Fabricius, 1803, p. 117.*Eysarcoris carnifex* Hahn, 1834, p. 117; Dallas, 1851, p. 225.*Pentatoma carnifex* Kirby, 1837, p. 275; Herrich-Schaeffer, 1853, p. 153.*Pentatoma bimaculata* Thomas, 1865, p. 45 (name preoccupied by *P. bimaculata* Westwood, 1837).*Cosmopepla carnifex* Stål, 1867, p. 525, 1868, p. 28, 1872, p. 18; Uhler, 1872, p. 395, 1876, p. 284, 1877, p. 403, 1878(a), p. 376, 1878(b), p. 504; Provancher, 1885, p. 44; Uhler, 1886, p. 5; Lintner, 1886, pp. 144–148; Van Duzee, 1889, p. 2; Montandon, 1893, p. 46; Van Duzee, 1894, p. 170; Howard, 1898, pp. 100–101; Luggar, 1900, p. 91; Van Duzee, 1904, pp. 50–51, 1908, p. 109; Olsen, 1912, p. 54.*Cosmopepla bimaculata* Van Duzee, 1917, p. 49; Stoner, 1920, pp. 96–97, 1926, p. 29; Blatchley, 1926, pp. 152–153; Leonard, 1928, p. 82 (localities); Baker, 1931,



Figs. 1-14. 1-7.—*Cosmopepla decorata*. 1. Pygophore, caudal. 2. Right clasper, ectal. 3. Right clasper, lateral. 4. Aedeagus, ventral. 5. Aedeagus, lateral (conjunctival appendages omitted). 6. Female genital plates, ventral. 7. Spermatheca. 8-14.—*Cosmopepla conspicillaris*. 8. Pygophore, caudal. 9. Right clasper, ectal. 10. Right clasper, ental. 11. Aedeagus, lateral. 12. Aedeagus, dorsal. 13. Ejaculatory reservoir. 14. Spermatheca. b.pr., basal process; cl., clasper; d.c.ap., dorsal conjunctival appendage; e., ejaculatory duct; e.r. ejaculatory reservoir; g.p., genital plate; 1 gx., 1st gonocoxa; 2 gx., 2nd gonocoxa; i.r., inferior ridge; t., theca; v.c. ap., ventral conjunctival appendage; v.m. ventral margin.

pp. 102–106; McDonald, 1966, pp. 25, 51 (male and female genitalia); McPherson, 1982, pp. 73–74 (complete listing of biological records).

Cosmoepepla lintneriana Kirkaldy, 1909, p. 80.

Note. In 1865 the name *Pentatoma bimaculata* Thomas was preoccupied by *P. bimaculata* Westwood, 1837, p. 35. This latter species was transferred to *Carbula insocia* (Walker) by Distant, 1900, p. 812.

Holotype. *C. carnifex*, ♀, America, Dom Hybner. Universitets Zoologiske Museum, Copenhagen. Type seen by author.

Description. Described by Blatchley, 1926.

Male genitalia: Described by McDonald (1966) and Baker (1931).

Female genitalia: Described by McDonald (1966).

Distribution. Throughout U.S.A. and Canada, Mexico.

Measurements. Female. Length 5.93, range 5.20–6.50 (25); breadth, 3.98, range 3.51–4.42 (25). Male. Length 5.38, range 4.74–6.04 (25); breadth 3.72, range 3.51–4.16 (25).

Cosmoepepla cruciaria Stål

Figs. 16–20, 45

Cosmoepepla cruciaria Stål, 1872, p. 19; Montandon, 1893, pp. 46–47; Kirkaldy, 1909, p. 80.

Holotype. ♀, Bogota, lindi. Naturhistoriska Riksmuseet, Stockholm. Type seen by author.

Description. Head black, juga apically yellow. Antennae with rostrum piceous. Pronotum with anterior margin yellow, anterolateral margins with broad yellow stripe continuing across disc between lateral angles. A vertical yellow stripe extending between anterior and posterior margins centrally, forming a broad cross (Fig. 45); remainder of pronotum black. Scutellum black, margins yellow extending into broad yellow macula at apex. Hemelytra black, apical 1/3 of corial margin yellow. Sterna, pleura black. Legs dark brown. Abdomen with connexiva yellow. Sterna black with a broad yellow band around outer margins, extending onto metapleura. Male with pygophore piceous. Female with 8th and 9th paratergites yellow, 1st gonocoxae yellow, apex brown.

Male genitalia: Very similar to *C. decorata*. Genital plates somewhat crescent shaped. Clasper with thumb-like process somewhat more acute.

Female genitalia: Similar to *C. decorata*.

Distribution. Colombia. Ecuador.

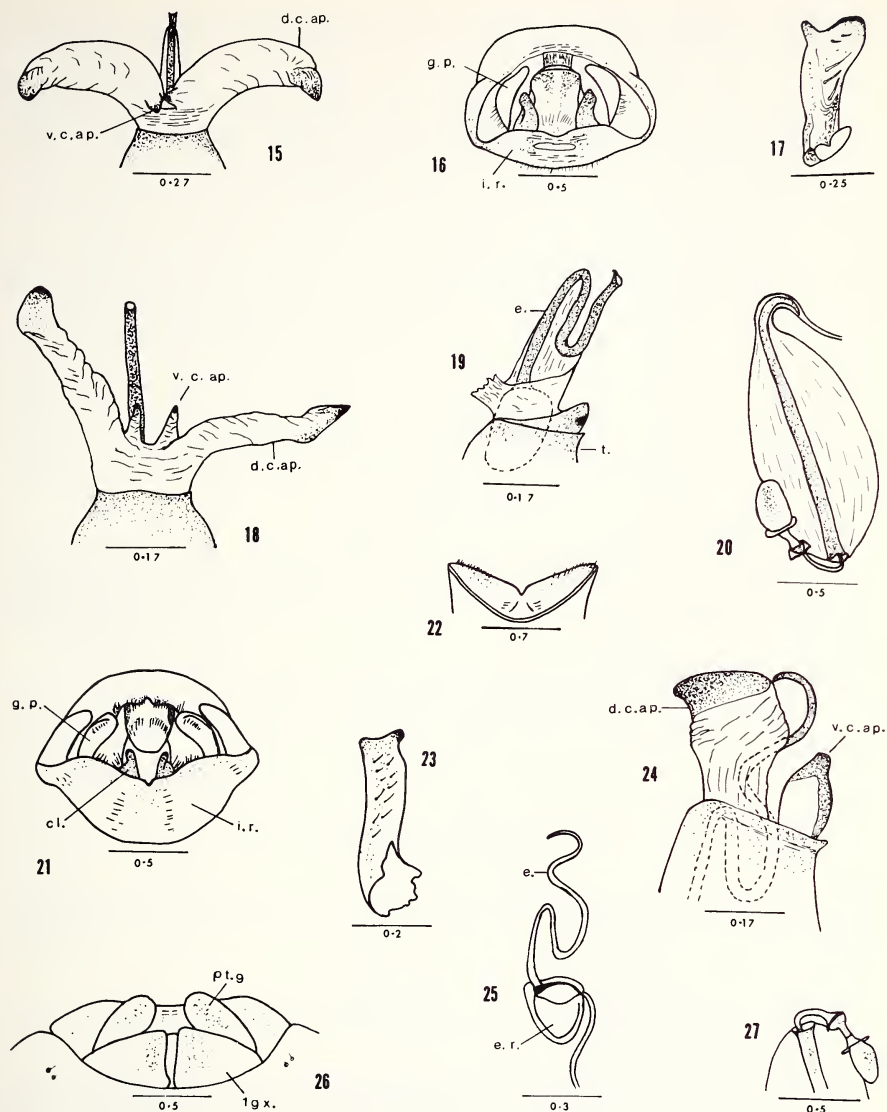
Comment. In some specimens the jugae are entirely black.

Measurements. Female. Length 5.38, range 4.96–6.48 (10); breadth 4.20, range 3.60–4.72 (10). Male. Length 5.46, range 5.20–5.76 (10); breadth 4.04, range 4.00–4.16 (4).

Cosmoepepla binotata Distant

Figs. 21–27, 44

Cosmoepepla binotata Distant, 1889, p. 327, pl. 31; Montandon, 1893, pp. 46, 49; Van Duzee, 1904, p. 51; Kirkaldy, 1909, p. 80; Banks, 1910, p. 83; Barber, 1910, p. 35; Van Duzee, 1917, p. 50.



Figs. 15–27. 15.—*Cosmopepla bimaculata*. Aedeagus, ventral. 16–20.—*Cosmopepla cruciaria*. 16. Pygophore, caudal. 17. Right clasper, ectal. 18. Aedeagus, dorsal. 19. Aedeagus, lateral (conjunctival appendages omitted). 20. Spermatheca. 21–27.—*Cosmopepla binotata*. 21. Pygophore, caudal. 22. Pygophore, ventral margin. 23. Right clasper, ectal. 24. Aedeagus, lateral. 25. Ejaculatory reservoir. 26. Female genital plates, ventral. 27. Spermatheca. cl., clasper; d.c.ap., dorsal conjunctival appendage; e., ejaculatory duct; e.r., ejaculatory reservoir; g.p., genital plate; i.r., inferior ridge; pt.9, paratergite 9; t., theca; v.c.ap., ventral conjunctival appendage.

Holotype. ♀, Ciudad Mexico, 8,100 ft. Forrer. British Museum (Natural History) (HEM. 1104). Type seen by author.

Description. Head black. Anterior lobes of bucculae tipped with yellow. Antennae and rostrum piceous. Pronotum black, anterolateral margins outlined in orange; broad yellow band running between lateral angles and across center of disc; in center of band, pair of small black spots (Fig. 44). Scutellum black, apex orange. Corium, clavus black with basal half of corial margins outlined in orange. Sterna and pleura black except for oval yellow maculae on episterna adjacent to coxal margin. Legs piceous. Abdomen with connexiva black with outer margin outlined in yellow. Sterna black with broad yellow band extending around outer margins and onto metapleura. Spiracle and trichobothria surrounded by black spherical macula on each segment.

Male genitalia: Pygophore, ventral margin with well developed inferior ridge sitting vertically above margin with deep median notch. Pygophoral plates oval in outline. Clasper with small thumb-like process, somewhat sinuous in outline viewed ectally. Aedeagus similar to *C. decorata*, dorsal conjunctival appendages broadly rounded and sclerotized at their apices. Ventral conjunctival appendages larger, lobe-like, bluntly rounded; sclerotized at apex and along outer margin. Ejaculatory duct much more broadly S-shaped.

Female genitalia: 9th paratergites oblong. First gonocoxae large, triangular, completely covering very narrow second gonocoxae. Spermatheca similar to *C. decorata*.

Distribution. U.S.A.: Arizona, New Mexico, Utah. MEXICO: Chihuahua, Mexico State, Durango, Nuevo Leon.

Comment. Ruckes (1938) reported this species on *Penstemon fendlesi*.

Measurements. Female. Length 6.38, range 5.60–6.72 (15); breadth 4.10, range 3.60–4.48 (15). Male. Length 5.66, range 5.12–5.84 (6); breadth 4.01, range 3.92–4.16 (6).

Cosmopepla uhleri Montandon, 1893

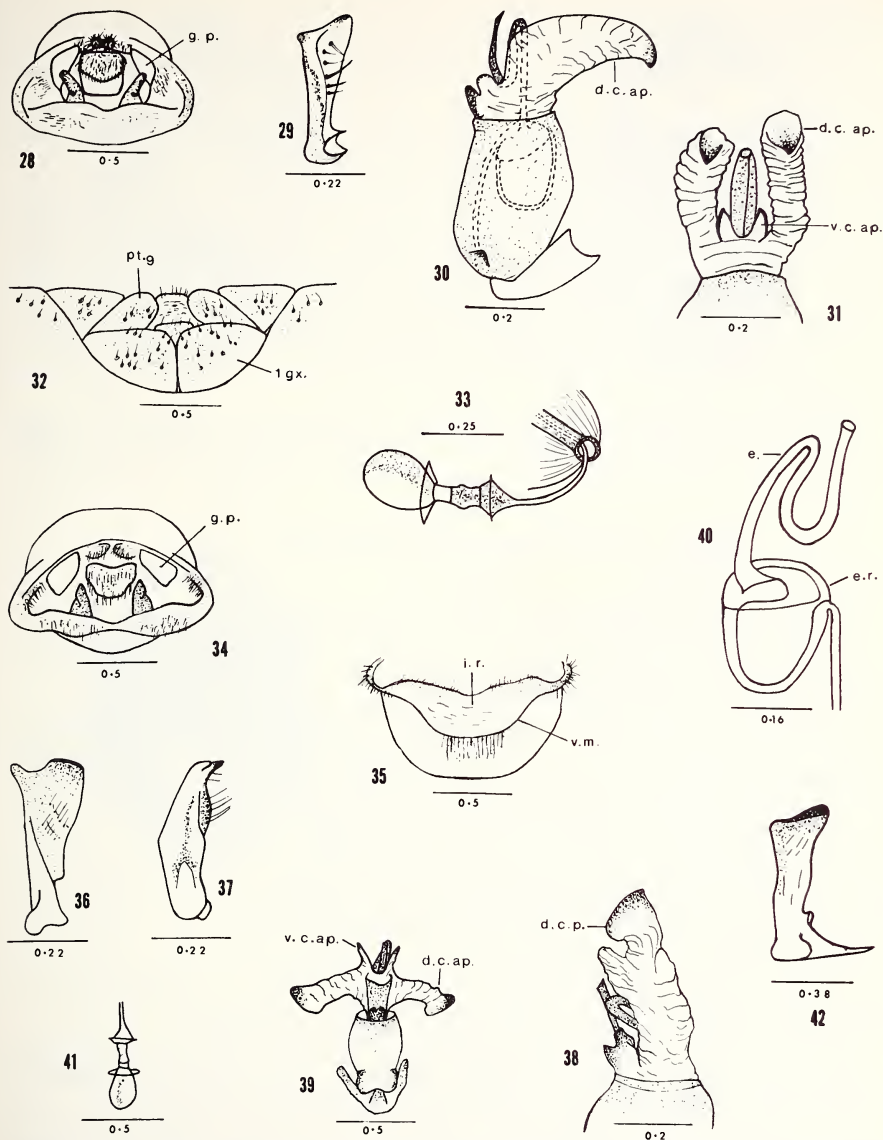
Figs. 28–33, 46

Cosmopepla uhleri Montandon, 1893, pp. 46, 48; Van Duzee, 1904, p. 51; Snow, 1906, p. 177; Kirkaldy, 1909, p. 80; Banks, 1910, p. 84; Van Duzee, 1914, p. 4, 1917, p. 49.

Type. Not located.

Description. Head black. Antennae dark brown. Rostrum and segments 1–3 mid-brown, segment 4 black.

Pronotum with basal half rust brown, apical half with two oblong black maculae extending from anterior margin towards center of disc. Anterolateral margins outlined with orange. A broad irregular orange band extending from lateral angles across disc (Fig. 46). Scutellum, basal $\frac{1}{2}$ black, apical $\frac{2}{3}$ rusty brown. Hemelytra, corium, clavus rusty brown, membrane black and sterna piceous, except for oblong ivory maculae on epimera and episterna adjacent to coxal bases. Orange anterolateral pronotal margins, centrally extended as triangular orange patch on propleuron. Legs dark to reddish brown. Abdomen with connexiva alternated yellow and black. Sterna black with a broad crenate yellow band around outer margins. Small oblong black maculae found at segmental junctions along outer margin of sterna.



Figs. 28–42. 28–33.—*Cosmopepla uhleri*. 28. Pygophore, caudal. 29. Right clasper, ectal. 30. Aedeagus, lateral. 31. Aedeagus, dorsal. 32. Female genital plates, ventral. 33. Spermatheca. 34–41.—*Cosmopepla coeruleata*. 34. Pygophore, caudal. 35. Pygophore, ventral margin. 36. Right clasper, ectal. 37. Right clasper, lateral. 38. Aedeagus, lateral. 39. Aedeagus, ventral. 40. Ejaculatory reservoir. 41. Spermathecal bulb. 42.—*Cosmopepla intergressa*. Right clasper, ectal. d.c.ap., dorsal conjunctival appendage; e., ejaculatory duct; e.r., ejaculatory reservoir; g.p., genital plate; i.r., inferior ridge; v.c.ap., ventral conjunctival appendage; v.m., ventral margin.

Male genitalia: Similar to *C. decorata*.

Female genitalia: Similar to *C. decorata*.

Distribution. U.S.A.: California, Oregon, Nebraska, Utah, Arizona, Nevada, Washington, Idaho.

Comments. (1) The orange band across the disc of the pronotum and around the margins of the abdominal sterna can vary from red to yellowish brown.

(2) There is very little that distinguishes this species from *C. intergressa* except the distinctive coloration. The genitalia are exactly the same, however the rostrum is significantly longer in *C. intergressa* on the average. The two species extend throughout most of the same geographic range and the biology of each would have to be studied in order to determine the exact status of these species. I have retained *C. uhleri* as a good species as it can be readily separated by the broad orange band across the center of the pronotal disc from *C. intergressa*. This species has been taken on *Aquilegia* sp.

Measurements. Female. Length 5.28, range 4.80–6.00 (25); breadth 3.57, range 3.04–4.00 (25). Male. Length 4.73, range 4.16–5.36 (17); breadth 3.26, range 2.96–3.76 (17).

Cosmopepla coeruleata Montandon

Figs. 34–41

Cosmopepla coeruleata Montandon, 1893, pp. 46–47; Kirkaldy, 1909, p. 80.

Syntype. ♀, Costa Rica, H. Donckier. Institute Royal des Sciences Naturelles de Belgique, Brussels. Syntype seen by author.

Description. Head blue black. Antennae dark brown, segments 2 and 3 equal, 5 longest. Rostrum dark brown extending just beyond hind coxae. Pronotum with anterolateral margins yellow; a narrow yellow band extending between pronotal angles across center of disc. Scutellum black with metallic blue sheen, apical margin with a yellow crescent-shaped macula. Apical half of corial margin yellow, remainder together with clavus metallic blue-black. Pleura, sterna black with metallic blue sheen. Legs dark brown. Abdomen with connexiva yellow. Sterna black, with a broad yellow band extending around outer margins and onto metapleura.

Male genitalia: Pygophore similar to *C. bimaculata*. Claspers with rather more prominent thumb-like process apically. Aedeagus similar to *C. bimaculata*, apex of dorsal conjunctival appendages somewhat more bluntly rounded.

Female genitalia: Similar to *C. bimaculata*, spermathecal bulb more rounded.

Distribution. U.S.A.: Texas. MEXICO: Jalisco. EL SALVADOR: San Salvador. COSTA RICA. VENEZUELA: Merida. COLOMBIA: Cundinamarca.

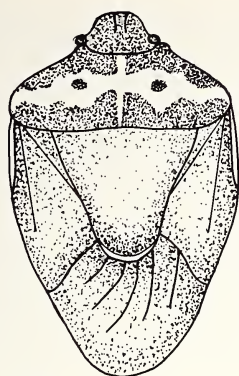
Measurements. Female. Length 5.85, range 5.44–6.40 (13); breadth 4.00, range 3.52–4.56 (13). Male. Length 5.35, range 5.12–5.68 (15); breadth 3.76, range 3.44–4.08 (15).

Cosmopepla intergressa (Uhler), **New Combination**

Fig. 42

Eysarcoris melanocephalus Uhler, 1876.

Eysarcoris intergressus Uhler, 1893, p. 368; Van Duzee, 1904, p. 52; Kirkaldy, 1909,



43

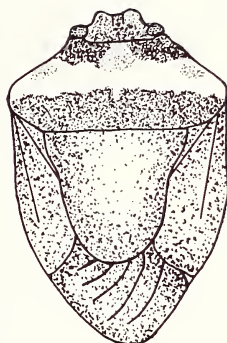


44

2.0



45



46

Figs. 43–46. 43. *Cosmoepepla conspicillaris*. Fig. 44. *C. binotata*. Fig. 45. *C. cruciaria*. Fig. 46. *C. uhleri*.

p. 85; Van Duzee, 1917, p. 50; McDonald, 1966, pp. 24–25, 51 (male and female genitalia).

Neottiglossa intergressa Gillette and Baker, 1895, p. 14.

Cosmoepepla humboldtensis Bliven, 1955, p. 8, 1956, pp. 5, 23. **New Synonymy.**

Lectotype. ♂, Cal. United States National Museum, Washington. Lectotype seen by author. The holotype ♂ of *C. humboldtensis*, California Academy of Sciences, San Francisco has also been seen.

Description. Small speckled brown species. Head black with juga reddish brown and reddish brown stripe along center. Bucculae reddish brown. Antennae light brown. Rostral segments 1–3 light brown, 4 dark brown. Pronotum with two large square black maculae one in each anterolateral corner, remainder of pronotum pale coffee-brown overlaid with dark brown punctations. Scutellum with 3 ivory spots

along posterior margin, one centrally and one in each lateral angle. Remainder of scutellum pale coffee-brown suffused with black towards posterior margin and overlaid by brown punctations. Propleura, apical half black, basal half orange brown; mesopleura black except for a square area adjacent to the mesocoxae, pale brown. Evaporative area of stink gland finely granular, extending onto mesopleuron; metapleural section with inner half finely granular and light brown, outer half black with coarse punctations. Basal half of metapleuron ivory overlaid with dark punctations. Legs amber, femora with suffused patches of dark brown; tibiae with fine brown punctations. Abdomen with connexiva alternating tan brown and dark brown. Sterna black with a wide crenate margin of ivory overlaid with dark punctations; small dark brown maculae at lateral junctions of each segment. Small brown maculae found in the marginal band, centrally on segments 3, 4, 5 and 6.

Male genitalia: See McDonald (1966).

Female genitalia: See McDonald (1966).

Distribution. U.S.A.: Kansas, Colorado, Utah, Montana, Idaho, Nevada, Missouri, California, Oregon, Washington. CANADA: Vancouver Is., British Columbia.

Comment. (1) Some specimens are a distinct red-brown color, with an orange-brown band around the margin of the abdominal sterna.

(2) Pack and Knowlton (1930) report this species is found on "currants," Downes (1928) records them on *Rubus parviflorus*. They can also be found abundantly on *Ribes* sp.

Measurements. Female. Length 5.24, range 4.64–6.08 (25); breadth 3.61, range 3.28–4.08 (25). Male. Length 4.69, range 4.16–5.44 (25); breadth 3.33, range 2.96–3.68 (25).

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